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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/092,532	03/08/2002	Debashis Basu	0023-0059	8887

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EXAMINER

LIM, KRISNA

ART UNIT	PAPER NUMBER
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2153

DATE MAILED: 04/22/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No. 10/092,532	Applicant(s) BASU ET AL.	
	Examiner Krisna Lim	Art Unit 2153	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☐ Responsive to communication(s) filed on ____.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-27 is/are pending in the application.
- 4a) Of the above claim(s) ____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) ____ is/are allowed.
- 6) ☒ Claim(s) 1-27 is/are rejected.
- 7) ☐ Claim(s) ____ is/are objected to.
- 8) ☐ Claim(s) ____ are subject to restriction and/or election requirement.

Application Papers


- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on ____ is/are: a) ☐ accepted or b) ☒ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. ____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. ____. |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date ____. | 6) <input type="checkbox"/> Other: ____. |

TL 

1. Claims 1-27 are presented for examination.
2. Claims 1-27 are rejected under 35 U.S.C. § 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.
 - a. In claim 1, it is unclear how a plurality of arbiters arbitrates among elements of a common resource. And, it is unclear what the common resource is and what is the element.
 - b. In claims 5, 7 and 9, it is unclear what the applicant means by "a predetermined point in its processing."
 - c. In claims 17, 22 and 28, it contains similar problems as in claims 1, 5, 7 and 9.

The drawings are objected to because in Figs. 1-4, suitable meaningful legends (not ambiguous acronyms or abbreviations) are recommended for inadequately labeled drawings. Thus, the applicant is advised to change "RE", "PFE", "PIC", "FPC", "QCL", "DQ", etc. to their appropriate meaning. See M.P.E.P 608.02 and 37 C.F.R 1.84(o).

Applicants are required to submit a proposed drawing correction in response to this Office Action. However, the formal drawings of the correction of the noted defect can be deferred until the examiner allows the application. Moreover, the applicant is reminded of the provisions of M.P.E.P 608.02(r) regarding separate letter of the draftsman.

3. It is requested that a future correspondence from applicants have line numbering for the recitation of claims, if possible, as this will aid in the future correspondence from the examiner.
4. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

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(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

5. Claims 1-27 are rejected under 35 U.S.C. § 103(a) as being unpatentable over Brash et al. [U.S. Patent No. 5,485,586].

6. Brash et al. discloses (e.g., see Figs. 1-7) the invention substantially as claimed. Taking claims 1, 5, 6 and 7 as an exemplary claims, the reference discloses a system comprising: a) a plurality of arbiters that arbitrate among elements of a common resource (e.g., see col. 1 (lines 42-43), col. 7 (lines 49-50)); and b) conflict logic configured to detect conflicts among the elements of the common resource, and, when a conflict is detected, the conflict is configured to alter processing ("switching between the two priority logic sessions" at col. 7 (lines 28-45), "allows only a single grant to be issued at any instant of time so requests are queued one at a time" at col. 2 (lines 1-18)) relating to the conflict in one of the conflicting arbiters.

7. Brash et al. does not explicitly mention, "alter processing relating to the conflict in one of the conflicting arbiters". Brash et al., however, discloses that when the simultaneous requests are received, his arbiters resolve this conflict by determining the order by which the received requested are queued by allowing only a single grant to be issued at any instant of time so requests are queued one at a time and the switching between the two priority logic sessions. It would have been obvious to one of ordinary skill in the art at the time the invention was made to recognize that such teaching of Brash et al.'s as mention above would have been obviously the same teaching of "alter processing relating to the conflict in one of the conflicting arbiters" because "alter processing." would have been obviously the same

of "switching between the two priority sessions ..." and "allows only a single grant to be issued at any instant of time so requests are queued one at a time."

Brash et al. disclose the a queue based arbiter to arbitrate between N devices for access to a common device and the use of two separate queues (first and second arbiters, one is for the high priority request and the other one is for the low priority access.), and all the requests in a higher priority will be processed before requests from the a lower priority queue are serviced (e.g., see col. 2 (lines 1-25)). Because a series of pipeline stages is a series of execution stage, it would have been obvious to one of ordinary skill in the art to recognize that the teaching of two separate queues of Brash et al. would have been obvious a series of pipeline stages because all the requests in the low priority requests must wait until the requests of higher priority requests are done before the low priority requests could be processed.

Brash et al. disclose the a queue based arbiter to arbitrate between N devices for access to a common device and the use of two separate queues (first and second arbiters, one is for the high priority request and the other one is for the low priority access.), and all the requests in a higher priority will be processed before requests from the a lower priority queue are serviced (e.g., see col. 2 (lines 1-25)). Because a series of pipeline stages is a series of execution stage, it would have been obvious to one of ordinary skill in the art to recognize that the teaching of two separate queues of Brash et al. would have been obvious a series of pipeline stages because all the requests in the low priority requests must wait until the requests of higher priority requests are done before the low priority requests could be processed.

8. As to claim 2, Brash et al. further disclose that the common resource is a set of queues and the elements of the common resource are individual ones of the queues within the set (e.g., see col. 1 (line 42) to col. 2 (line 25), cols. 3-4, col. 7 (line 28) to col. 8 (line 46)).

9. As to claim 3, Brash et al. disclose the a queue based arbiter to arbitrate between N devices for access to a common device and the use of two separate queues

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(first and second arbiters, one is for the high priority request and the other one is for the low priority access.), and all the requests in a higher priority will be processed before requests from the a lower priority queue are serviced (e.g., see col. 2 (lines 1-25)). Because a series of pipeline stages is a series of execution stage, it would have been obvious to one of ordinary skill in the art to recognize that the teaching of two separate queues of Brash et al. would have been obvious a series of pipeline stages because all the requests in the low priority requests must wait until the requests of higher priority requests are done before the low priority requests could be processed.

10. As to claim 4, Brash et al. further disclose the first and second arbiters (first and second queues) for managing higher and lower priority requests (e.g., see col. 2 (line 1-25) and col. 7 (lines 28-35)).

11. As to claim 8, Brash et al. further disclose the common resource is a FIFO queue and a head pointer of the FIFO queue to point to the next data element (e.g., see col. 3 (line 61) to col. 4 (line 10)).

12. Claims 9-27 are similar in scope as of claims 1-8, and therefore claims 9-27 are rejected for the same reasons set forth above for claims 1-8.

13. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

The references are cited in the Form PTO-892 for the applicant's review.

A shortened statutory period for response to this action is set to expire 3 (three) months and 0 (zero) days from the mail date of this letter. Failure to respond within the period for response will result in **ABANDONMENT** of the application (see 35 U.S.C 133, M.P.E.P 710.02, 710.02(b)).

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Krisna Lim whose telephone number is 571-272-3956. The examiner can normally be reached on Monday to Wednesday and Friday from 7:30 AM to 4:00 PM.

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If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Glenton Burgess, can be reached on 571-272-3949. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

KI

April 8, 2005



KRISNA LIM
PRIMARY EXAMINER